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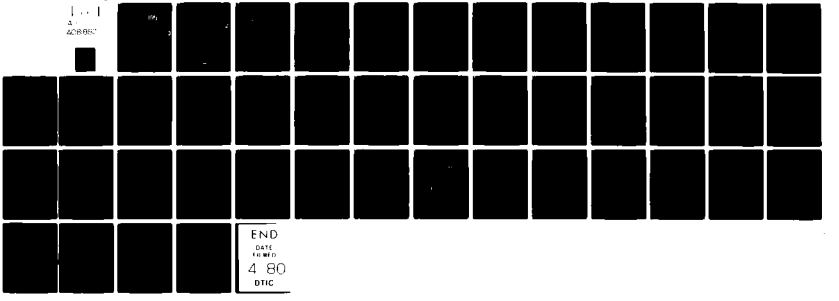

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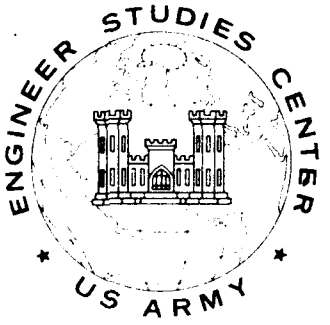

This report is published in partial fulfillment of the objectives of the Corps of Engineers Mobilization Support Study.

Prepared by
US Army Engineer Studies Center
Corps of Engineers

February 1980

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ACKNOWLEDGMENTS

The Engineer Studies Center, US Army Corps of Engineers prepared this monograph under the sponsorship of the Director of Civil Works, Office of the Chief of Engineers. It was prepared under the overall direction of Mr. Gerard F. Greco, Senior Project Director. Study team members included Mr. Daniel L. Broyles, Mr. William L. Mangler, LTC Edward G. Rapp, Mr. James H. Tate, and Mr. Alex Voynitch.

This monograph was prepared for publication by Mrs. Sally B. Blake, assisted by Mrs. Sandra J. Grossman and Mrs. Jean A. Lamrouex, under the supervision of Ms. Doreen A. Myers. The editor was Ms. G. Leslie Geiger. Mr. Christopher Lew, Mrs. Eva G. Allen, and Mr. Abell A. Norris III coordinated the graphics preparation and study publication.

Thanks are extended to members of the Study Advisory Group (SAG) who served throughout the course of preparing, reviewing, and staffing the monograph. The SAG members from OCE were BG Hugh Robinson (Chairman), COL Frank Akiyama (Deputy Chairman), Mr. James E. Dundas, Sr., Mr. Steve Gordey, Mr. Mike Helpa, MAJ Bob Keenan, LTC Otto Weening, Mr. Jeff Krull; from DCSOPS was LTC Harry E. Sykes; from DCSLOG was LTC Oscar J. Pena; from FORSCOM was Mr. Bill Johnstone; from TRADOC were LTC Miles C. Hedrick and MAJ James F. Shamblen; from NAVFAC was Mr. Joseph M. Cason; from DARCOM was Mr. Emery C. Harmon; from HQ USAF was LTC J. Pellek; and from FESA was LTC Mark H. Magnussen.

CONTENTS

ABSTRACT

This monograph assesses the Corps of Engineers' posture in terms of its ability to meet mobilization requirements. There are a number of areas in which major efforts or improvements are necessary if the Corps is to fulfill its mobilization roles. The monograph offers specific recommendations for enhancing the Corps' mobilization posture and recommendations for both OCE Headquarters and Corps field elements. These recommendations range from refining the Corps mobilization mission which will necessitate active Corps solicitation of customer requirements to a number of internal Corps management steps. This is the final monograph in ESC's Corps Mobilization Support Study.

CORPS MOBILIZATION POSTURE

I. INTRODUCTION

> "In the post war world, we cannot count on time for producing the machinery necessary for victory after sustaining a serious surprise attack, but must maintain a high degree of readiness."
>
> Dwight D. Eisenhower[1/]

1. Purpose. The central question of this investigation is "How might the Corps of Engineers be better postured to support mobilization?" This monograph describes the issues uncovered during the course of the overall study and attempts to illuminate them for top management.

2. Scope. This is the third in a series of monographs concerning Corps mobilization. The first monograph is targeted for the Corps in general and Corps supervisors and managers in particular. It describes qualitatively the mobilization environments and probable engineer tasks for the 1980's.[2/] A second monograph, with the same target audience, quantifies mobilization capabilities and requirements and provides Corps planners with a conceptual framework for mobilization planning.[3/] This third and final monograph is written for top Corps management and focuses and illuminates what are believed to be the key mobilization support issues. Each of the three monographs is intended to build on the preceding in terms of logic and data. The preponderance of

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1/ Jordan, Amos A., Issues of National Security in the 1970s. New York, New York, 1967.

2/ Department of the Army, US Army Engineer Studies Center, Mobilization Environments. Washington, D.C., November 1979.

3/ Department of the Army, US Army Engineer Studies Center, Corps of Engineers Mobilization Capabilities, Requirements, and Planning. Draft. Washington, D.C., December 1979.

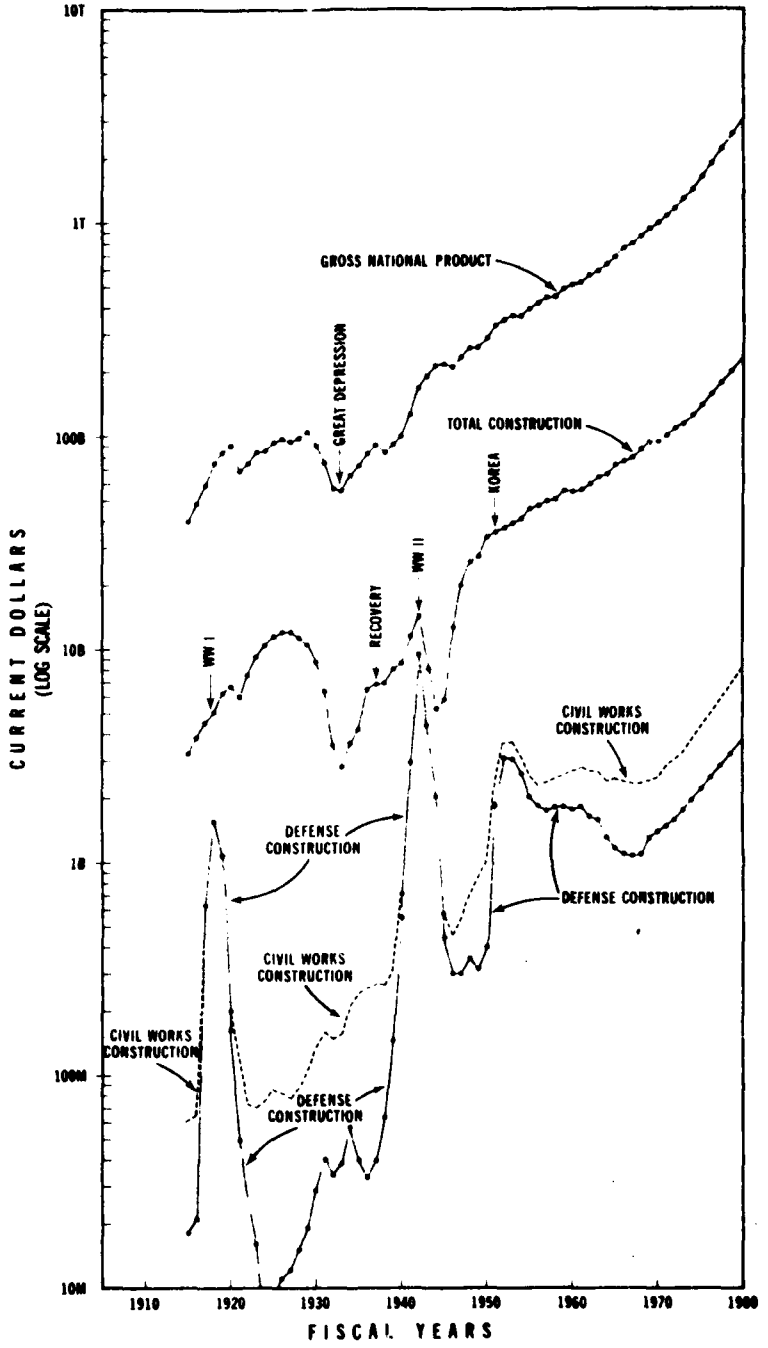
the supporting facts are in the second monograph; this final report only synthesizes the data pertinent to the issues.

3. Perspective.

a. Extant posture. Because of the nature of its peacetime operations, the Corps is not totally unprepared to meet mobilization requirements (e.g., it maintains a certain level of readiness so it can respond quickly to natural disasters). Furthermore, there are a few still in the organization who experienced and recall the previous mobilization efforts of World War II and Korea. However, there is quite a low level of general awareness and appreciation of the magnitude of mobilization requirements. Since there are no existing mobilization plans and trained personnel, the Corps can be responsive to a major defense emergency should one develop in the near future. Accordingly, there is a need for management actions to enhance the Corps' extant posture and to increase the level of awareness of the mobilization support requirements.

b. Mobilization workload. Figure 1 shows the magnitude of CONUS defense and Civil Works (CW) construction from 1916 to 1980. It clearly shows the impact of Corps operations during mobilization and even depression relief and strongly suggests the need for the Corps to be postured toward defense and crisis operations. The peacetime missions of flood control and inland navigation improvements provided some preparation for the almost overwhelming events that occurred in 1917, 1941, and 1950. In 1917 and 1941, the Quartermaster (QM) Construction Service executed the lions' share of the mobilization construction. While the Corps contributed many officers to the QM Construction Service effort, notably Somervell and Groves prior to World War II, the Corps was not assigned the entire task until December 1941. Now, the Corps has

CONUS CONSTRUCTION DEMANDS AND GROSS NATIONAL PRODUCT : 1916-1980



SOURCES:

1. Newspaper Enterprise Association, Inc., The World Almanac and Book of Facts 1979. New York, New York, 1979.

2. Department of Commerce, Bureau of the Census, Statistical Abstract of the United States. Washington, D.C., 1978.

3. _____, Historical Statistics of the United States--Colonial Times to 1970. Part 2. Washington, D.C., September 1975.

Figure 1

no "competitors" and it must plan and execute the total Army and most of the Air Force construction required. The three events and their frequency suggest that during these periods there was a workload up to 50 times greater than experienced during normal operations. Therefore, to be fully prepared for such events, the Corps must design and train its current organization to be capable of workloads at the higher crisis level. Definite management actions are necessary to prepare the organization for such contingencies.

c. Response time. Since World War II, technological improvements in the potential enemy's capability have greatly reduced the time available for future mobilizations. In a conventional attack, there may be only 2 weeks or much less for mobilization (between M-day and D-day). In the case of a nuclear attack, warning time may be only 45 minutes or less. Response time should be the critical measure in assessing the Corps' mobilization readiness. Given these very critical response time constraints, the Corps is not prepared to react with substantial immediate support. It is of course possible that (as prior to World War II) there could be a long period. This could magnify the task; if the US has more time to prepare, it is likely that (as during and prior to World War II) the US will use the time to increase its forces and reinforce its plants and equipment. All of this implies more construction support. In any event, the plans must allow for the "worst case" short mobilization as well as the possibility of a longer, and likely much larger, premobilization period.

d. National setting. Several national conditions influence what the Corps can do to improve its posture for mobilization. Since World War II the CONUS base has come under direct threat of a devastating nuclear attack. Crisis relocation has replaced sheltering as the primary doctrine for protecting civilian populations. Moreover, the public remains generally apathetic to the

dangers involved, causing a continual erosion of support to civil defense (CD) efforts. The public and industry's level of awareness of mobilization requirements remains quite low, and the quality of life considerations have tended to replace the work ethic as the primary motivation of society. Consequently, support for mobilization planning is not widespread throughout the society or its governmental representatives.

e. Defense setting. Within the Armed Services, mobilization planning appears consumed by the preeminent problem of manpower. Little or no attention is being paid to the construction surge that must precede any production base or manpower surge. Engineers have institutional inertia to overcome in order to interact with defense plans that do not realistically consider construction requirements.

f. Planning perspective. An emergency of national scale introduces an utter discontinuity in which: national priorities and values change from quality of life to national survival; legal/regulatory controls vest significant powers in the Executive; management controls tend toward decentralization, while some new areas require centralized management (such as setting of priorities for materials); and position authority and responsibilities are greatly increased. The nation and the Army have been through national emergencies before; therefore, they know the conditions that will prevail during war with some degree of assurance. It is the war side of the discontinuity that must be used as the vantage point for mobilization planning. The following sections present discussions of key issues and recommendations for improving the Corps posture for mobilization.

II. REFINEMENT OF CORPS MISSION REQUIREMENTS

4. Issue.

MOBILIZATION MISSION REQUIREMENTS MUST BE REFINED IF THE CORPS IS TO BE RESPONSIVE DURING DEFENSE EMERGENCIES.

5. Discussion. Specific requirements have been inadequately defined because of the limited attention given mobilization planning throughout the military structure. Although the Corps is expected to provide rapid mobilization support, it will not be possible without better defining requirements so that Corps planners can assess time-phased construction needs by location, establish preengineered designs where required, and allocate resources. The Armed Services are concerned primarily with manpower and equipment questions involving procurement, readiness, and deployments--the associated construction that would be required during mobilization is a distant concern. However, as Figure 1 shows, defense construction needs in CONUS will surge dramatically in a national emergency. Most CONUS activities associated with full mobilization center around the throughput of currently approved force levels to the theater of operations, the training base for providing personnel replacements, and the generation and throughput of appropriate logistic support. The events of 1917 and 1940 make this very clear. The national leadership (and military leadership at the War Department staff level) did not understand in 1917 for about a year that construction was the key to all major mobilization tasks. The same was true in 1940. Now there are few existing plans for mobilization activities beyond the full mobilization level. While it is not possible to anticipate every requirement that would be placed on the Corps, efforts to understand and plan for

support of expected activities must be expanded if the Corps is to be responsive to the initial surges that will occur in a mobilization environment. Figure 2 lists the types of likely Corps missions and tasks to be addressed during three types of mobilization situations. Corps support at the many mobilization installations can be better understood if the MACOMs would continue developing usable plans with respect to stationing of reserve component elements, training load projections, and production base activities/expansions based on realistic leadtime considerations and production capabilities. The other military services need to provide similar planning inputs. The Program Objective Memorandum/Five Year Defense Program (POM/FYDP) process is inadequate in defining post-M-day requirements because the Planning, Programming, and Budgeting System (PPBS) does not assume an M-day during the programming period. This mobilization information is currently unavailable, poorly defined, and constantly changing. It is difficult for Corps planners to generate this planning information; therefore, the actions recommended below are considered fundamental to the success of mobilization planning efforts.

6. Recommendations.

a. The Chief of Engineers (COE) should contact headquarters of potential customer organizations to secure their cooperation and commitment to generating mobilization data and requirements. This would allow Corps advance planning to proceed beyond a generalized level and would ensure that appropriate subordinate elements of these organizations are energized to work the mobilization problems. Initial focus should be on the full mobilization case with total mobilization (conventional) being second in importance. However, allowance must be made also for an extended buildup case (as in 1940-1941), which could be an even bigger challenge. Figure 3 shows the possible military

CORPS MOBILIZATION MISSIONS AND TASKS

Full Mobilization	Total Mobilization (Conventional) (All Full Mobilization Tasks, Plus the Following)	Total Mobilization (Nuclear)
Activate COOP and Mobilization Plans ● Secure critical operating facilities - Hydropower/dams/locks/water supply ● Open communication links - Intra-Corps - Inter-government agency ● Terminate all nonessential CW and military construction contracts ● Suspend maintenance activities on noncritical Corps facilities ● Reorient Corps personnel and workloads	**Activate COOP and Mobilization Plans** ● Same as for full mobilization	**Pre-attack** ● Exercise provisions of COOP ● Support to CD - Assist with population relocation actions in concert with FEMA - Identify and relocate critical construction equipment from high-risk areas **Post-attack** ● Exercise provisions of COOP ● Provide contract construction support to local CD organizations as required - Lifesaving phase: .Firefighting .Decontamination .Burial of dead .Water supply restoration .Other - Recovery phase: .Damage assessments .Marshalling residual construction capability .Expedient structure for shelter .Emergency utility restoration .Critical structures .Surface transport system bypasses .Debris and rubble clearance .Demolition of damaged structures .Other ● Provide contract construction support to military installations and other customers as required
Support Troop Installations ● Constitute/augment resident offices ● Accelerate ongoing essential construction ● Execute preplanned contract construction support - Expand facilities using preengineered designs, minimum standard, expedient construction for: billets, service, training, utilities, storage, road and railroad facilities, etc. - Rehabilitate existing facilities ● Assist FE with direct support (as required): provide FE support teams from FESA or other engineer organizations (e.g., 416th Engineer Command) for solution of utility problems, etc. ● Provide real estate assistance in: - Leasing of nonindustrial facilities - Leasing for maneuver and other training areas	**Support Troop Installations** ● Plan and construct facilities to higher standards where appropriate (not permanent standards) ● Enhance facilities of all types	
Support Production Base Installations ● Constitute/augment resident offices ● Accelerate ongoing essential construction ● Execute preplanned contract construction support - Expand/rehabilitate basic structures and production lines - Modify/rehabilitate railroad sidings or other facilities - Provide physical security measures (e.g., fencing, devices) ● Assist FE with direct support (as required) ● Provide real estate assistance (as required)	**Support Production Base Installations** ● Execute required contract construction support for: - New plants (apply fast-tracking construction methods) - Reconfiguration of existing private plants to produce defense items - Provide physical security measures ● Provide engineering evaluations on existing structures for specific new uses	
Support MTMC ● Execute preplanned contract construction support: expand ammunition port facilities ● Provide other contract construction support as required - Surface transport system chokepoint bypasses for tunnels, bridges, etc. - Other?	**Support MTMC** ● Execute required contract construction support for port expansions	
Support Other Services ● All services - Provide dredging at key harbors, channels, and anchorages - Other? ● Air Force - Accelerate ongoing essential construction - Provide real estate assistance in leasing of nonindustrial facilities - Provide other preplanned contract construction support - Provide real estate and construction assistance for induction centers - Other?	**Support Other Services** ● Same as for full mobilization	
Support HSC and ACC ● As required	**Support HSC and ACC** ● As required	

NOTE: ACC--Army Communications Command
COOP--Continuity of Operations Plan
FE--Facilities Engineer
FEMA--Federal Emergency Management Agency
FESA--Facilities Engineering Support Agency
HSC--Health Services Command
MTMC--Military Traffic Management Command

Figure 2

MILITARY CONSTRUCTION EFFORT IN POSSIBLE MOBILIZATIONS

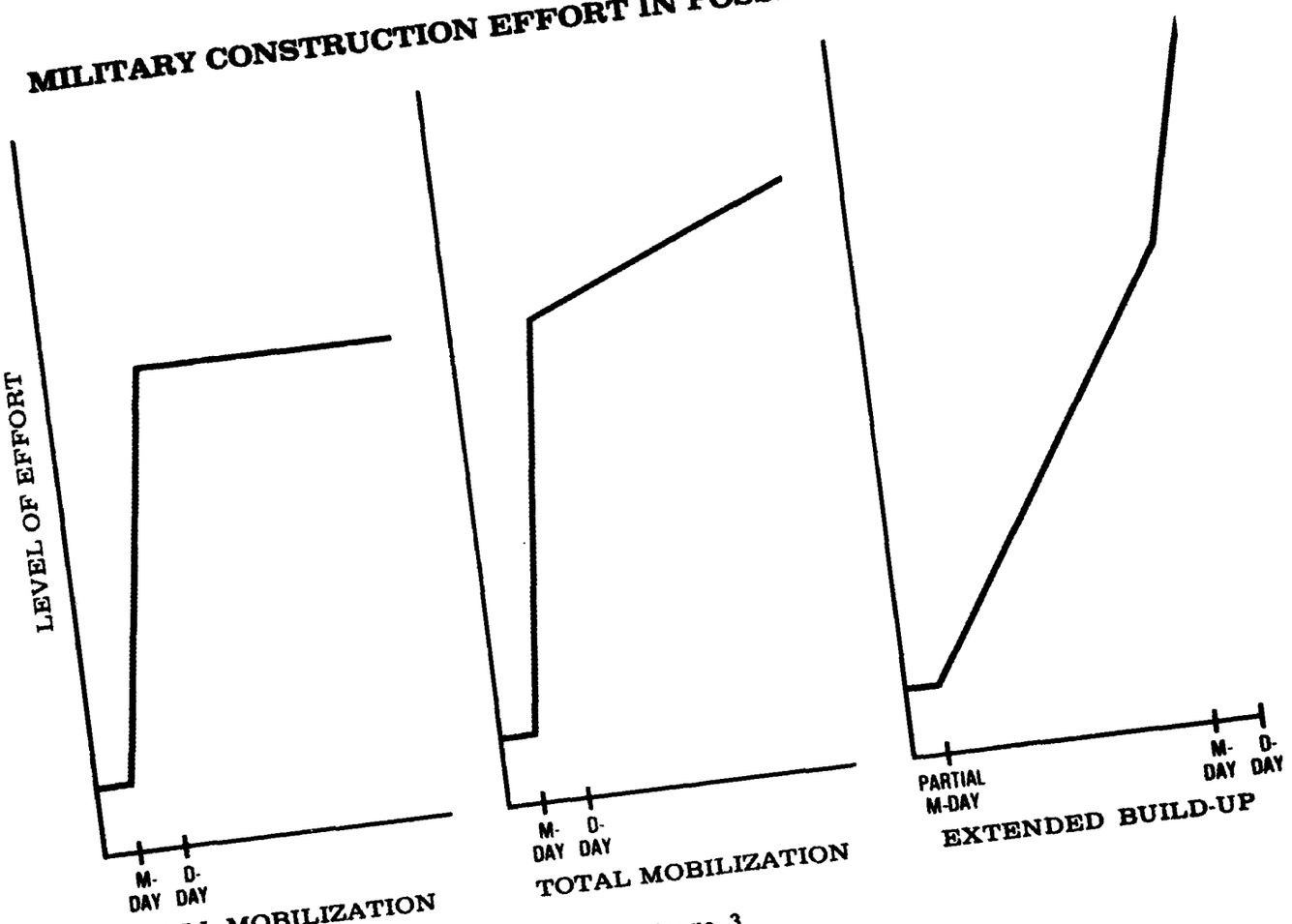


Figure 3

construction effort during the three mobilizations, including consideration of a long buildup. If there is an extended buildup, the months could be filled with ambivalence, uncertainties, pressures countering the effort (from the public and all three branches of government), ambiguous authorities, and other roadblocks to the execution of a strong construction program. Yet, the period could be used to allow the US to overcome the serious disadvantages faced if the mobilization comes quickly.

b. The Assistant Chief of Engineers (ACE) should provide all available mobilization stationing decisions and data to appropriate divisions/districts responsible for local support to the affected installations.

c. OCE should require that Corps field elements with military construction (MC) responsibilities make direct contact with all potential mobilization customers to address local support requirements. Some advance planning efforts (e.g., those at inactive, semi-active, or state-owned or operated installations) will require considerable survey information and analysis. Consideration should be given to assigning the 416th Engineer Command some of these advance planning tasks.

d. CW should develop and maintain the Army's post-M-day construction plan.

e. There is a larger Army issue that must be surfaced to DA. The Army does not have a continuing planning and programming instrument like the POM that describes Army priorities and resource requirements should a mobilization be declared during a fiscal year. Identified requirements should be surfaced to OSD, OMB, and Congress so that an awareness of the size and scope of the M-day requirement is maintained.

III. RESPONSE TIME

7. Issue.

> THE CORPS' RESPONSE TIME MUST BE REDUCED IF THE CORPS IS TO BE SUFFICIENTLY RESPONSIVE DURING DEFENSE EMERGENCIES.

8. Discussion. During past mobilization experiences, time was the critical resource; threat technological improvements make response time an even more critical attribute in future defense mobilizations. Warning of a substantial conventional attack may be as short as 2 weeks, and warning for a nuclear attack may be only the flight time of missiles. The following are a number of actions that the Corps can take to improve its response posture for mobilization. All of these actions are also applicable to DA policies and procedures.

a. Standby legislation and Executive Orders. Once a state of national emergency is declared, the Corps should move to stop work immediately on construction nonessential for defense. Emergency powers granted by law for relief of peacetime constraints (social, environmental, safety, and other new bodies of law) should be implemented. At one time the General Counsel maintained a book of emergency standby legislation, and this book was circulated periodically for update. However, this ready reference no longer exists.

b. Procedural streamlining. Current procedures for government operations in contracting, procurement, and real estate are based on peacetime socio-economic factors. The procedures attempt to promote social goals, strengthen the free enterprise system, and appeal to public perceptions of fair play. In emergencies the public goals and expectations change with the degree of emergency. The public expects immediate action and protection. The

Corps in general is not familiar with the procedural relief during national emergencies.

c. Authority expansion. Early in World War II it became necessary to decentralize authority in order to handle the magnitude of contract work. During the 1940-1941 period when the QM Construction Service had the majority of the mobilization construction tasks, authority was pushed early to the field. Later, as the Corps took over the broad tasks for the War Department, the division engineers were given authority to negotiate contracts up to $5 million. The ceiling for districts was set at $3 million. Later, area engineers were also empowered to negotiate contracts to a $3 million limit. Authority was greatly expanded in most areas where dollar thresholds were imposed. Organizations did not grow significantly in size. The increased contracting workload was handled by "delegating down" selection and award. Although firm central control was maintained on policy, it was necessary for the Corps' decentralized organization to be able to base its mobilization plans on a broadly expanded level of decentralized authority.

d. Predesign and contracting. Considerable delays were experienced in World War II as CW personnel slowly discarded concepts of permanency in construction and adopted expediency and materiel conservation as the primary drivers in design. Several iterations of designs were needed to reduce standards for utilities and roads in cantonment projects and to standardize plans for industrial facilities. Since much of the work in a full mobilization (NATO short war) can be identified, every effort must be made to satisfy these requirements using predesigns so that construction contracts can be awarded almost immediately upon mobilization.

e. Cost-plus-a-fixed fee (CPFF) contracts. In 1917 and 1940-1941, the bulk of the mobilization construction was by CPFF contracts. Although controversial and trouble-prone, CPFF did provide a vehicle to get construction underway prior to full engineering and allowed major changes, adjustments, and expansions during the course of the work. Although unpalatable in peacetime, the increased time pressures (over the fierce pressures of 1917 and 1941) of a 1980's mobilization, with an increased premium on quick construction, indicate that the Corps should closely consider CPFF as a tool for some construction. If the decision is to use CPFF, then the decision should be reached during peacetime to ensure a clear course for wartime. The methods of policy review, contractor selection, and negotiation execution may require setting up civilian advisory boards (examples of both successes and failures are available from 1917 and 1940-1941). Again, these can be set up in peacetime on a standby basis to be used during an emergency period.

9. Recommendations.

a. The General Counsel's Office, Office of the Chief of Engineers (OCE), should be tasked to develop and maintain a current emergency actions book.

b. Construction operations should assess periodically the level of nonessential defense work based on national survival criteria. All nonessential CW and MC projects identified must be in this assessment. CW will have the bulk of these projects. New dams, waterways, flood control projects, and recreation areas should be stopped, unless they are a short period from completion, allowing time during termination to protect the work in place. Environmental Protection Agency (EPA) construction support and nonessential overseas support must be terminated rapidly. The Corps should be prepared to

stop work on these efforts immediately upon declaration of a defense mobilization. In more uncertain situations, there will probably be time for careful assessments to permit "winding down." Congressional pressures (and others) will be stronger to continue "business as usual" if the situation is unclear; yet, the need for the assessments and appropriate terminations will be present--and harder to handle. It must be recognized that from time to time it may be necessary to apply some construction effort to existing CW facilities (e.g., critical locks on major waterways and critical hydropower plants). The Corps should be prepared to report to Congress the amount of appropriated funds not essential to defense and available for reappropriation.

c. There should be an assessment of how current funding levels impact on mobilization requirements. Consideration should be given to the immediate expansion of funding authority on M-day by an order of magnitude. A written policy should be established concerning contracting appropriate for national survival conditions.

d. Major elements of OCE should be required to write emergency procedures which are appropriate under national emergency conditions, particularly in the areas of procurement, contracting, and real estate.

e. The COE should make the Chief of Staff, US Army (CSA) aware of the need for actions at Army level which are parallel to those recommendations outlined above.

IV. ORGANIZATIONAL REPOSTURING

10. Issue.

OPERATIONAL CONCEPTS FOR MOBILIZATION ADVANCE PLANNING AND EXECUTION MUST BE BETTER DEFINED.

11. Discussion. The Corps' basic field organizational structure is considered adequate to provide necessary support during mobilization situations. However, current mobilization TDAs are not designed to provide emergency support and do not reflect a viable concept of operations. Seventy-five percent of the Corps' personnel assets will be available for mobilization missions on M-day and TDAs should reflect this reoriented capability. In addition, even after a nuclear attack, as much as 80 percent of the work force could survive.

a. Planning and execution concepts. Within the conceptual base for planning, there are some key elements that must be included in plan formulation. The "one-stop" service concept is fundamental among these elements. Despite what the Corps' internal structure may be, external customers (e.g., military installation commanders) must have a single Corps source to go to for support. This requirement establishes the necessity for a lead district in each geographic region that will serve as a single point of contact for any customer within that region. Within the Corps, the establishment of "one-stop" service dictates that there be a total vertical and lateral communications network between the lead district and all elements that must support that district. In concert with this must go the clear assignment of authority and responsibility for mobilization actions throughout the Corps. Such

assignments must be a part of the advance planning so that there will be no misunderstanding about responsibilities in time of crisis. In keeping with this, each Corps level has its role to play.

(1) OCE. OCE is responsible for facilitating the planning efforts and execution of plans, if necessary, at subordinate levels--particularly at the lead districts. While OCE is responsible for providing guidance to subordinate levels, it must also ensure adequate resource allocation and the removal of any roadblocks to advance mobilization planning. The standby task of the alternate OCE Headquarters must also be fully considered.

(2) Divisions. Divisions are responsible for ensuring that districts within their organizations are prepared to meet potential mobilization requirements. There must be plans reflecting approved concepts for rendering mobilization support. Communication links should be established during peacetime to facilitate necessary coordination during a crisis. There should be full exploration of support affiliations for mobilization advance planning and execution to provide the best possible local support. Clear authorities are to be established that allow and encourage direct coordination among districts both internal and external to the division.

(3) Districts. The district should be the key planning element and primary implementer of mobilization actions. However, a district with a major MC orientation (for planning, design, and construction) should constitute the lead district for all mobilization activities within its existing MC boundaries. A district with a primary CW orientation, regardless of the division in which it is located, would provide support to the lead district as required. It is envisioned that CW districts would generally provide this support within their areas by fielding response teams to meet mobilization

requirements. Figure 4 shows organization affiliations considered appropriate under the lead and support element concept. In the current Corps organization, changes in lead districts shown in Figure 4 could occur if peacetime workloads shift so that current CW districts gain increased MC responsibilities and become predominantly MC oriented. Such district realignments could alter the current structure, but the concept of lead and support districts would still remain. Support elements would provide all necessary support to effect both advance planning and execution activities. There would have to be fully developed planning for this type of action and support to expeditiously implement in a mobilization situation. Properly constituted response teams should be developed to support the many types of support that will be needed.

(4) Other elements. Other Corps elements (e.g., laboratories, centers, and agencies) will have their own roles in a mobilization. In general, these will be roles providing technical support for the CONUS construction mission in the form of quick reaction team efforts or short-term research and development (R&D) or studies to solve site-specific problems. Lead districts should plan to tap these services during crisis situations. Also, direct installation support by such agencies as the FESA may be an early-on heavy requirement. In addition, laboratories and centers will be called on to address other tasks in support of military OCONUS activities. All military engineering (ME) subjects are possible areas of involvement (e.g., mobility, countermobility, pavements, expedient surfaces, dust control, targeting, engineer intelligence, field fortifications, bridging, mines, sensors, structures, explosives, military hydrology, water supply, mapping, cold weather engineering). It is envisioned that ME support tasks would also be in the form of quick reaction efforts such as short-term R&D or studies to recommend

ORGANIZATION AFFILIATIONS FOR MOBILIZATION ADVANCE PLANNING AND EXECUTION

Support Elements		Lead Districts									
Div	District	Kansas City	Omaha	Balti-more	New York	Norfolk	Alaska[a/]	Mobile	Savan-nah	Sacra-mento[b/]	Fort Worth
LMV	Memphis		B	B				A			A
	New Orleans							B			A
	St. Louis		A								
	Vicksburg							A			A
MRD	Kansas City		A								
	Omaha									A	
NED	--				A						
NAD	Baltimore				A	A					
	New York										
	Norfolk								B		
	Philadelphia			A	A						
NCD	Buffalo			A	A						
	Chicago		A								
	Detroit		A	A							
	Rock Island		A								
	St. Paul		A								
NPD	Alaska										
	Portland									A	
	Seattle									A	
	Walla Walla		B							A	
ORD	Huntington			A		B			B		
	Louisville		A	A				B			
	Nashville			A		B		A	A		
	Pittsburgh			A	A						
SAD	Charleston								A		
	Jacksonville								A		
	Mobile								A		
	Savannah										
	Wilmington					A			A		
SPD	Los Angeles									A	B
	Sacramento		B								B
	San Francisco									A	
SWD	Albuquerque	B	A								A
	Fort Worth										
	Galveston										A
	Little Rock		B								A
	Tulsa	A	B								A

Legend: A--denotes major support.
B--denotes minor support.

a/ No support elements available.

b/ Hydrologic Engineering Center personnel assets should be considered available to Sacramento District for mobilization purposes.

Figure 4

solutions for specific problems or applications. Corps elements with these ME capabilities should be aware of general mobilization requirements, and efforts should be made to maintain a level of competence to satisfy possible needs.

b. Changes to district organizations. Mobilization TDAs should reflect those reoriented elements within district offices. Multi-discipline teams would be constituted from the personnel assets listed in Figure 5 to perform mobilization support tasks. These teams would be structured within a new flexible organizational element having the following major functions and responsibilities (e.g., installation/project coordination, project management, engineer reconnaissance/assessments, general engineering/design, site adaptations, contract administration, and FE support).

12. Recommendations.

a. COE should approve the "one-stop" service concept for application to advance mobilization planning and execution.

b. COE should approve the concept of MC districts becoming lead districts with total responsibility for advance planning and execution for all customers within their geographic boundaries. Support affiliations should be established to involve the broadest possible base of Corps elements. Future consideration should be given to appropriate district reassignments focused on two considerations: major CW districts with growing one-stop tasks should be considered for conversion to MC districts with CW tasks shed to nearby CW districts; and MC districts should be considered for passing navigation and other CW activities to neighboring CW districts.

c. OCE should ensure that appropriate vertical and lateral communications capability is made available to all Corps elements who must function within the one-stop and lead-district concept.

FUNCTIONAL AREAS IDENTIFIED FOR MOBILIZATION REORIENTATION

Office Functions	Field Functions
Planning and Reports	Field Survey
Flood Plain/Urban Studies	Field General Engineer
Environment and Studies	Field Inspection
Structural	Field Contract Administration
Design/Technical Engineer	Field Resource Management
Foundation and Materials	Regulatory
Hydraulics/Hydrology	
Relocations	
Estimating and Specifications	
Survey	
Electrical/Mechanical	
General Engineering	
Drafting and Mapping	
Regulatory Functions	
Resource Management	
Procurement	
Supply	
Contracts	
Contract Administration	
Supervision and Inspection	

Figure 5

d. OCE should ensure that appropriate ME projects are funded within the laboratories, centers, and agencies to maintain a level of competence to satisfy possible wartime needs.

V. ADVANCE PLANNING AND TRAINING

13. Issue.

> RESOURCE COMMITMENTS TO ADVANCE MOBILIZATION PLANNING AND TRAINING WITHIN THE CORPS ARE INADEQUATE FOR EFFECTIVE SUPPORT DURING DEFENSE EMERGENCIES.

14. Discussion. Inadequacies in resource commitments to advance mobilization planning and training are not limited to the Corps, but are also pronounced throughout the military and Federal structure. Many throughout the defense structure have been unaware of the relative importance of mobilization support; more emphasis is gradually being placed on these matters. In reviewing the impact of this situation on the Corps, the following points surfaced.

a. Corps personnel do not understand what specific construction or other engineer support will have to be provided during mobilization situations.

b. Interfaces among Corps elements and also with external organizations are not clearly established.

c. Authorities and procedures for executing mobilization missions are not understood.

d. There is no single document that specifies the Corps' roles and missions in any mobilization environment. Rather, for a conventional war mobilization, Corps functions are covered in a large number of Defense, Army, and Engineer directives and regulations, some seemingly unrelated to Corps mobilization functions. Corps requirements in a nuclear war are covered or implied in a number of CD and military directives and regulations. Planners have no single source document to turn to in determining Corps mobilization roles and missions.

e. There is a lack of awareness at Corps division and district level of what mobilization entails, and no plans exist to shift specific individuals from peacetime functions to mobilization functions. This is indicated by the lack of a structured program to train key personnel to transition rapidly from peacetime to mobilization roles.

15. Recommendations. To overcome the deficiencies in mobilization planning and preparations, there needs to be a concerted effort to make all Corps personnel aware of the Corps' mobilization responsibilities. Every person should know his/her role during a mobilization situation. The following steps are recommended.

a. OCE should allocate resources necessary for mobilization planning, training, and testing. Initially, lead districts will require higher funding levels than others. Money must be allocated in annual budgets for these purposes and, more importantly, target time commitments must be identified for in-house levels of effort. Time must be specifically set aside at all Corps levels to prepare and test plans with key personnel participating to ensure feasibility and adequacy.

b. Huntsville Division (HND) should be established as a mobilization center of competence to ensure that appropriate planning is conducted and that the awareness of all Corps employees is heightened. Yet the COE, his directors, the division and district engineers, and other senior Corps officials must personally ensure the involvement of all key Corps officials in mobilization/wartime planning. The inclination to "let Con Ops do it" or "let Huntsville do it, that's not my problem" will be fatal to any effective planning and preparation.

c. HND should develop a family of pre-engineered facility designs to facilitate rapid placement of selected features on installations to support mobilization. These designs should be patterned conceptually after the Army Facilities Component System. Examples of these expedient facilities would include: tent camps for billets, utilities, roads, ranges, and other specialized training facilities. Use of readily available construction materials should be the major consideration in these designs. Site adaptation of these plans should be accomplished at district level given specific installation requirements.

d. HND should develop a comprehensive training program involving initial and follow-on courses to foster common understanding of mobilization elements and actions. This training should be geared to wartime--not peacetime--procedures. Initially, at least, the courses should focus on mobilization procedures for full and total (conventional) mobilizations. Procedures for total mobilization (nuclear) would be a third priority. The 1940-1941 period should be reviewed for partial mobilization preparation when tough tasks were assigned in the face of uncertain mobilization. Courses should include the best combination of video tape presentations, lectures, seminars, and classroom exercises. Further amplification on the training courses listed below will be made in the forthcoming ESC monograph dealing with Corps training. The program should be structured along the following lines:

(1) Corps awareness of mobilization should be heightened by a general orientation presentation from the COE to all Corps employees. Senior recognized civilians (e.g., Chief Counsel, Director of Real Estate, CW/MC

engineering chiefs) should participate in the film since over 99 percent of the Corps is civilian. That civilian participation will be important in underlining the need for awareness at all levels of the Corps.

(2) A key manager's course should also be presented to those designated by divisions and districts as responsible for executing managerial roles in mobilization.

(3) A detailed training course should be structured for Corps mobilization planners. Personnel from divisions, districts, and other Corps elements involved in the planning function should take a course providing instruction on determining requirements and planning how to meet them.

(4) A general mobilization orientation course should be conducted for those responsible for executing actions. The focus would be on construction management and procurement activities. Attention should also be given to mobilization environments, procedures, concepts, and local plan elements.

(5) Field elements should be primarily responsible for selecting personnel to take the mobilization courses. However, initial instructions should indicate that the focus for selection should be on CW-oriented personnel, as primary manpower resources for mobilization tasks will come from this group of employees. Figure 5 lists the functional groups to be reoriented.

e. In order to identify the Corps' personnel availability at all levels, the following accounting and allocation improvements are offered.

(1) The Personnel Administration (PA) subsystem of Corps of Engineers Management Information System (COEMIS) should be modified to include an identifier for each civilian employee who is also a reservist. In addition, each reservist who is also a mobilization designee (MOBDES) to a Corps

element should be identified on the PA records. This is required to establish net losses to the Corps.

(2) Relocation plans for the Europe and Middle East Divisions should be developed. Personnel who would be available from these oversees areas should be identified so that their assignments to the Corps CONUS structure can be planned.

(3) Future MOBDES TDA adjustments in the Corps should include consideration of those elements that will play lead roles in both advance planning and mobilization. Active officer personnel losses to Europe should also be considered in establishing MOBDES levels at Corps elements.

VI. CORPS/FEMA RELATIONSHIPS

16. Issue.

> A DETERMINATION MUST BE MADE AS TO WHO IS IN CHARGE OF MOBILIZING THE US CONTRACT CONSTRUCTION INDUSTRY IN A DEFENSE EMERGENCY.

17. Discussion. Figure 6 shows the magnitude and transitory nature of defense construction efforts. This history shows vividly the unpredictable nature of the past efforts where defense construction suddenly consumed huge proportions of the nation's total contract construction capabilities. These peaks create management problems for both government and industry. In the past, ad hoc boards were created to resolve these interface problems, but often only after considerable construction momentum was lost.[4/] FEMA could work out interagency and government/industry problems and develop a framework of understanding prior to events. The framework needs to establish who is in charge and the responsibility assignments throughout the governmental structure so that response to emergencies can be immediate and substantial.

18. Recommendation. The Corps, as the prime contract construction management agency, should establish a detailed position on management responsibility for construction resources and surface that position through the

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4/ This should not imply that advisory boards should not be formed. They had much use during World War I and World War II and taught many valuable lessons. The boards can be given many tasks, explicitly: review emergency policy (construction, contracts, real estate); review or recommend priorities; give advice on key personnel; select architectural and engineering and real estate contractors; and provide labor advice and interfaces. There are perhaps equally valuable implicit tasks: provide a sounding board and an interface for/to the public, industries, or the Congress ("take the heat"). The boards can be assembled in peacetime for advisory roles--their roles expanded in an emergency period.

DEFENSE CONSTRUCTION IN CONUS
AS A PERCENTAGE OF THE TOTAL VALUE OF US CONSTRUCTION PLACED BY YEAR

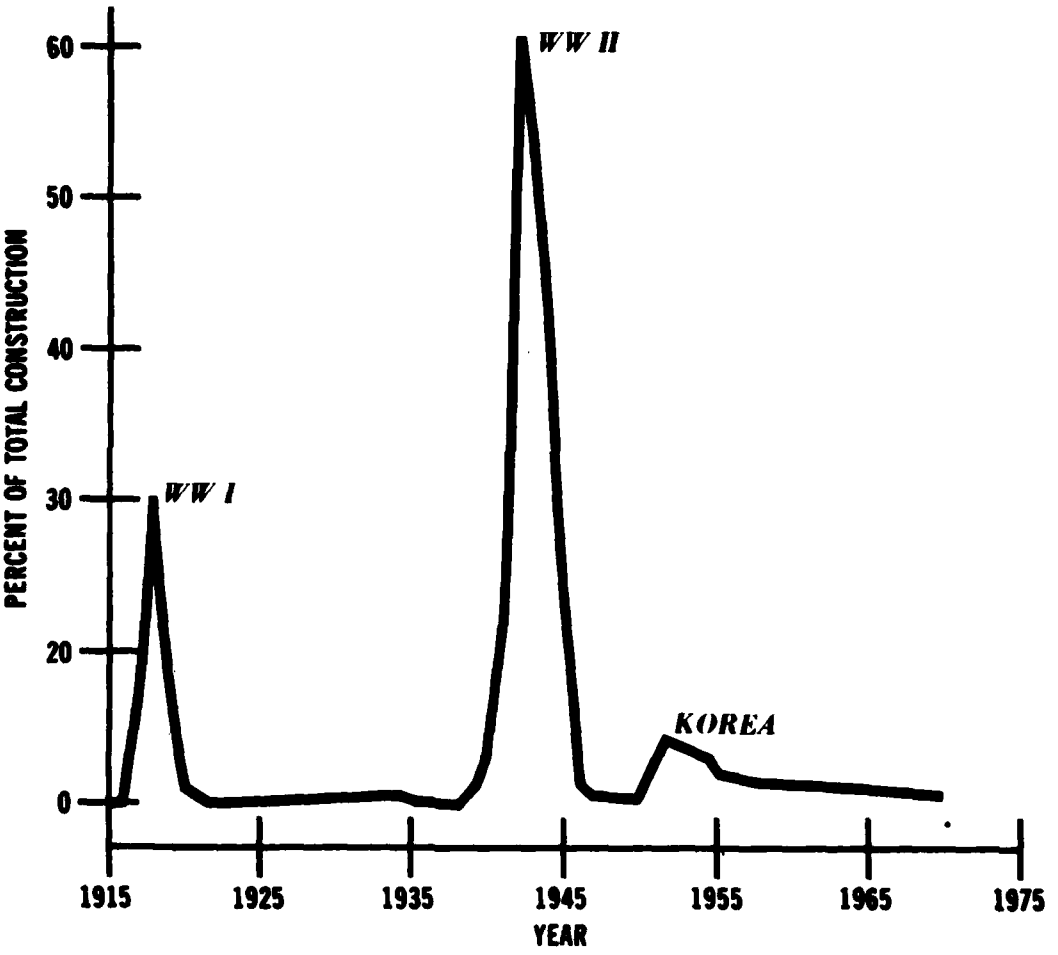

Figure 6

FEMA-DOD Interface Group. This position should establish the intergovernmental relationships to exist in emergency response both at national and regional/district operating level.

VII. MOBILIZATION MANAGEMENT

19. Issue.

> A PLAN AND CONTROLS NEED TO BE DEVELOPED TO SPECIFY AND GUIDE FUTURE MANAGEMENT ACTIONS.

20. Discussion. Corps management needs to have a well-developed action plan and a set of controls to properly manage mobilization planning and execution. Developing an action plan is a necessary step in preparing the Corps for its mobilization roles and missions. However, the development of such plans, regardless of their specificity, is only one step in the mobilization preparation process. It is equally important for OCE management to constantly monitor and evaluate those plans to ensure they are adequate and that the Corps structure is prepared to implement them immediately upon mobilization declaration. This requires that OCE establish a set of management controls that will guide plan formulation and periodically test plans to ensure feasibility, applicability, and effectiveness. The next DOD mobilization test is MOBEX 80 (scheduled for fall 1980). OCE management actions should be on a schedule to coincide with this event.

21. Recommendations. OCE top management should take steps in establishing mobilization controls in concert with mobilization advance planning actions. Such controls should embody planning objectives for all major Corps elements, effectiveness measures, and testing procedures. Figure 7 shows a general time schedule for accomplishing this task. Specific recommendations are:

a. OCE should convene a planning conference at the 06/GS-15 level to map out an integrated Corps action plan.

SCHEDULE OF RECOMMENDED ACTIONS

1980	March	DE Conference May	October	DE Conference November
March		Convene an Action Planning Conference		
May		Report Out Actions to be Taken to DE Conference		
May-September		Corps Implements Designated Actions		
October		Report Completed Actions to DE Conference Develop Planning Goals for 1981		
November		Test Corps Mobilization Readiness Posture During MOBEX 80		

Figure 7

b. OCE should develop an overall schedule with specific milestones for completing plan development. The Corps should proceed rapidly in developing plans even though some plan development is contingent on data inputs from other MACOMs and services. Since the planning process should be continuous with constant refinement in a changing environment, data inputs from other services can be included as they become available. Established schedules should prioritize plan development (i.e., planning for full mobilization is first priority, total (conventional) second priority, and total (nuclear) third priority. Schedules should contain not only milestones for plan development, but also scheduled times for plan testing).

c. OCE should provide appropriate engineer regulations and SOPs to Corps planning elements; these regulations and SOPs should be provided in

phase with the planning schedule. The referenced guidance will contain policies, procedures, criteria, and other instructions regarding program development, funding controls, planning, execution, etc.

d. OCE should develop a means of evaluating plans on a periodic basis and in phase with the established schedule. As part of the evaluation, plans should be tested through mobilization exercises both internal to the Corps and in concert with military-wide exercises. Tests should measure response times and knowledge of key personnel responsible for mobilization. To ensure personnel awareness and capability, all personnel designated as key individuals in plans must participate in tests in their assigned mobilization roles.

VIII. PERIPHERAL SUBJECTS

22. General. ESC was asked to address several subject areas from a mobilization perspective. These subjects are current actions within the OCE Staff. The comments offered below are subjective in nature and do not stem from in-depth analysis or investigation.

23. Corps Regional Computer Centers (RCC). Corps plans for RCCs in Washington, D.C. and Vicksburg, Mississippi have progressed to where funding is being requested in the FY 81 budget. One important aspect of the justification for having two centers surfaces when survivability considerations are studied within the context of a nuclear situation. It is assumed that should only a single computer site be approved, it would logically be located in the Washington area because of its proximity to key staff and the Army Headquarters. However, given that Washington is attacked, it is considered necessary to have a second computer site--Vicksburg. These observations are offered to strengthen arguments supporting the Corps recommended RCC concept.

24. 416th Engineer Command. Various concepts currently are being investigated to identify a wartime mission for the 416th Engineer Command. In examining these concepts, the current makeup of the command should bear heavily on the outcome. The 416th is divided into two elements: a TOE element of about 250 people and a TDA element also of about 250 people. The TOE element is oriented on command and control functions for assigned engineer units; its engineer section has wide-ranging experience and capacity and forms a nucleus that could serve the Army well during mobilization. The TDA element is divided into 40 teams of about five people each that currently survey reserve

installations and facilities nationwide to determine maintenance and construction needs. This survey activity may soon be expanded to include active and semi-active unit installations. Several alternatives being considered by the Army Staff and others attempting to develop a wartime mission for the 416th are synthesized below. Other alternatives may surface, particularly if there are changes in the Corps' peacetime mission.

a. Alternative 1.

(1) The command would continue its peacetime mission.

(2) On M-day the command would be disestablished.

(3) The disposition of the command after M-day would be:

(a) The TOE portion would be integrated into the OCE mobilization TDA structure for possible deployment to a yet unidentified area (possibly the Mid-East).

(b) The TDA portion would be broken up to constitute FE support teams where needed at military installations or the teams would be integrated into the mobilization TDAs of selected installations.

b. Alternative 2.

(1) The command would continue its peacetime mission in a reconfigured interface with the Corps and HND to permit comprehensive planning for mobilization.

(2) On declaration of mobilization, the 416th should be amalgamated within the Corps (perhaps including command relationships with the HND and FESA to form an element for providing broad FE support as required in pursuance of a rapid transition to emergency construction/facilities actions).

c. Alternative 3.

(1) The command would continue its peacetime mission in some reconfigured form.

(2) On declaration of mobilization, the command's personnel would be integrated into the MACOMs' engineer mobilization TDAs as required.

d. There may be additional alternatives for employment of all or part of the 416th in a CONUS mobilization support role to provide FE or other engineering capability. The final disposition of the command is still undecided. However, Corps planners should be aware of this potential manpower resource for mobilization and closely monitor developments concerned with the 416th so that effective use can be made of these valuable personnel assets.

25. Centralized Real Property Maintenance Activity (RPMA). Under mobilization conditions, a case can be made for the Corps or some wartime successor command to assume responsibility for centralized RPMA or RPMA/industrial operations for all or most installations in CONUS. A trial of centralized RPMA is now underway in the National Capital Region. The incentive for doing this in a mobilization is that the major troop installations will move major tenant units (e.g., III Corps, Fort Hood; 1st Infantry Division, Fort Riley) with serving commanding generals (CG) overseas. The outgoing CG and his successor will have much to do without having to maintain responsibility for the installation(s) he commands in peacetime. It may be logical to move to a centralized RPMA (or RPMA/industrial operations) under the command or direct cognizance of the Corps (or successor agency) under the pressures of the emergency. This recommendation can await earlier mobilization planning, perhaps to include MOBEX 80. Planners should consider using the 416th Engineer Command in this regard. Some installations which continue (or build on) their

peacetime missions in an emergency (e.g., Fort Benning, US Military Academy, Rock Island) may continue the RPMA peacetime relationships, but possibly modify or strengthen the interface between the FE and the Corps field organization. This concept of a centralized RPMA will be the subject of future study and various alignments will be explored.[5/]

26. Industry Interface. Mobilization success is largely dependent on the ability of the contract construction industry's ability to respond to an M-day declaration. Corps planning should include dialogue with industry and engineer societies.

5/ Some work in this area has been done by ESC. The reader is referred to the Department of the Army, US Army Engineer Studies Center, Review of Real Property Maintenance Activities (RPMA) Improvement Alternatives. Washington, D.C., February 1979.

IX. SUMMARY

27. Summary. In reviewing the Corps' history and its current posture for mobilization, it is apparent that a substantial capability exists. The overall Corps posture for mobilization is not one of weakness, although considerable weaknesses were exposed in this study. The Corps derives significant strength for mobilization from the nature of its peacetime business, particularly from: the size of the CW program; the decentralized management structure; the continual emergency readiness for natural disasters; the synergism that exists between the Corps civil and military functions; and the working relationships existing with the US construction industry.

a. Unlike the rest of DOD, the Corps CW function is sized for peacetime, not a standardized war scenario. This creates unique problems between sizing and posturing that Corps management must overcome. The natural tendency for CW is to posture only for peace. In the past, sufficient time was available to reposture, and to a degree, resize CW once a mobilization condition was declared. Technological improvements in the threat significantly reduce the response time available in future conflicts. The Corps must maintain a high level of awareness and competence directed at mobilization needs. This is one of the Corps' foremost internal problems in regard to mobilization.

b. Similar to the peacetime atrophy that has taken place within the Corps, the services appear to have forgotten the magnitude of the construction effort necessary to obtain the manpower and production surge required in a major defense mobilization. Anticipation of the need and planning for facility expansions appear almost nonexistent. The posture of the Corps appears to be a passive reliance that the customer will define the requirement. If

history repeats itself, the Corps customers left on their own will not begin to define mobilization construction requirements until M-day plus one. Given these conditions, the central thesis of the paper is that the Corps must adopt an active soliciting posture toward mobilization engineer support. We must help the Army commands and services define their construction needs, particularly for the "full" mobilization case, and in the process create our own center of competence and lead districts for mobilization throughout the Corps. This is the single most important problem facing Corps leadership, since it takes a strong voice from the constructor (Corps) to require the customers (DA Staff, commands, and other services) to define requirements in peacetime.

c. The Corps can do the work discussed in paragraph 27a above--defining an awareness, training for, and planning for Corps actions under mobilization (or premobilization) conditions. But, to work on paragraph 26b--insisting on customers defining requirements--demands that Corps leadership initially in the DA arena "knock on doors, demand answers." The CSA has made it clear that he wants the Army to properly plan for mobilization and wants associated planning (with OSD, FEMA, etc.) to move forward.

LAST PAGE OF MONOGRAPH